Biohaven Presents New Data with BHV-7000 Once-Daily Extended-Release Formulation Demonstrating Excellent Safety Profile and Nonclinical Data Updates at American Epilepsy Society 2024 Annual Meeting

December 6, 2024

- *Reported expanded safety results from BHV-7000 Phase 1 multiple ascending dose studies, including the once-daily extended-release formulation being evaluated in ongoing Phase 2 and 3 clinical studies, demonstrating excellent tolerability at all doses evaluated without central nervous system (CNS) adverse effects typically associated with other anti-seizure medications (ASMs), such as somnolence and cognitive/mood disturbances.*
- *Qualitative assessment of online social media platforms and forums provided a unique perspective of the unmet needs that people with epilepsy are vocalizing outside of the clinical setting, including the negative impact that ASM associated adverse events have on their quality of life.*
- *Additional nonclinical data presentations included characterization of BHV-7000 using optical electrophysiology as well as beneficial effects of BHV-7000 on pathogenic developmental epileptic encephalopathy-associated KCNQ2 variants*

NEW HAVEN, Conn., Dec. 6, 2024 /PRNewswire/ -- Biohaven Ltd. (NYSE: BHVN) announced today that it is presenting expanded safety data from BHV-7000 multiple-dose studies at the American Epilepsy Society (AES) 2024 Annual Meeting, taking place December 6-10, 2024, in Los Angeles, California. Additional poster presentations highlight BHV-7000 nonclinical data and unmet needs that persist for people living with epilepsy, including the negative impact of adverse effects associated with current ASMs.

Jason Lerner, M.D., Medical Director and Epilepsy Clinical Lead at Biohaven, commented, "We are very excited to share the expanded safety results with the once-daily extended-release formulation being evaluated in ongoing Phase 2 and 3 clinical studies. We are encouraged to see BHV-7000 continue to demonstrate favorable safety and tolerability without dose-limiting toxicities or CNS adverse events commonly associated with other ASMs, such as somnolence. These results paired with previously demonstrated CNS target engagement in our Phase 1 EEG study and a nonclinical profile showing BHV-7000 is a selective Kv7.2/7.3 activator that dials out $GABA_A$ activation provide compelling rationale for why BHV-7000 offers a differentiated profile from other treatments currently available or in development."

Dr. Lerner continued, "The evidence to date with BHV-7000 represents a potential paradigm shift in the treatment of epilepsy as many patients continue to be burdened by adverse events and do not achieve adequate seizure control with existing medications. As we continue advancing 5 ongoing pivotal Phase 2/3 trials with BHV-7000, including studies in focal epilepsy and idiopathic generalized epilepsy, Biohaven remains committed to developing novel, efficacious, and well-tolerated therapies for people living with epilepsy."

In addition to 4 poster presentations at AES, Biohaven presented 1 poster at the Partners Against Mortality in Epilepsy (PAME) 2024 Conference in Los Angeles on Thursday, December 5th highlighting the patient-centric Phase 2/3 BHV-7000 study in idiopathic generalized epilepsy.

American Epilepsy Society 2024 Annual Meeting Presentation Highlights:

Poster 1.486: Phase 1 Multiple Ascending Dose Studies Demonstrate Safety and Tolerability of BHV-7000, a Novel Kv7 Potassium Channel Activator

- BHV-7000 is a selective Kv7.2/7.3 activator that was safe and well-tolerated at dose levels up to 120 mg daily for 15 days with no dose-limiting toxicities; 120 mg exceeds the doses being evaluated in ongoing Phase 2 and 3 clinical studies of up to 75 mg daily in focal epilepsy, idiopathic generalized epilepsy, bipolar mania, and major depressive disorder.
- There were low rates of CNS-related adverse events and no somnolence or cognitive/mood disturbances reported.
- Most AEs were mild and resolved spontaneously; and there were no serious adverse events or severe adverse events.
- New data with the BHV-7000 once-daily extended-release formulation demonstrated excellent tolerability.

Poster 1.512: A Qualitative Assessment of the Epilepsy Patient Experience Through Social Media and Web-based Forums

- While seizure freedom remains the primary goal of epilepsy treatment, additional unmet needs of people living with epilepsy were assessed by investigating the patient experience directly through social media and online platforms where patients discuss epilepsy outside of a clinical setting.

- Patient perspectives and unmet needs were identified across 3 areas: antiseizure medication-associated adverse events, mental health, and stigma.
- The 4 most frequently discussed ASM associated adverse events included: sleepiness, insomnia, mood changes, and cognitive effects; comments from patients captured the negative impact these adverse events have on their quality of life.
- People with epilepsy also reported a range of challenges with mental health, and the stigma associated with epilepsy pressured patients to remain silent about their struggles.

Poster 1.534: Pharmacological Characterization of BHV-7000, a Novel and Selective Activator of Kv7 Channels, Using All-optical Electrophysiology

- The acute and chronic pharmacological effects of BHV-7000 on the excitability of primary rat cortical neurons were evaluated using the all-optical electrophysiology platform *Optopatch* (Quiver Biosciences), which measures neuronal activity with single-cell and single action potential resolution.
- Concentration-dependent dampening of neuronal excitability was observed, consistent with previous data with BHV-7000 in other experimental paradigms.
- Overall, BHV-7000 demonstrated potent *in vitro* effects to reduce neuronal activity impacting a diverse set of *Optopatch* functional features across the stimulus protocol, including spike timing and spike shape features in different stimulus periods, which indicates lower neuronal excitability near action potential threshold.

Poster 1.431: BHV-7000 Is a Potent M-current Activator with Efficacy on Multiple Epilepsy-associated KCNQ2 Variants

- This *in vitro* study assessed the effects of BHV-7000 on 50 loss-of-function *KCNQ2* variants.
- BHV-7000 rescued current density in all tested pathogenic *KCNQ2* variants.
- Current density was restored to wild-type (WT) levels with BHV-7000 for most variants.
- These findings support the potential therapeutic value of BHV-7000 in *KCNQ2*-related epilepsy associated with a wide range of pathogenic *KCNQ2* variants.

Partners Against Mortality in Epilepsy (PAME) 2024 Conference Highlights:

PAME Poster 41: A Modern Design for a Phase 2/3 Randomized, Double-Blind, Placebo-Controlled Study to Evaluate Efficacy and Safety of BHV-7000 in Idiopathic Generalized Epilepsy (IGE) With Generalized Tonic–Clonic Seizures (SHINE)

- Epilepsy studies have traditionally been double-blind, placebo-controlled, change-from-baseline endpoint studies; in these studies, subjects receiving placebo for a fixed treatment duration remain at risk for continued seizures, injury, and Sudden Unexpected Death in Epilepsy (SUDEP).
- SHINE (NCT06425159) is an innovative, ongoing registrational study in IGE with the selective Kv7 activator BHV-7000 with an efficient, patient-centric design utilizing an FDA-endorsed time to event endpoint that decreases time on placebo, potentially reducing the risk of exposure to additional seizures, injury, and SUDEP.

Full posters will be available on the **Posters and Presentations** page at: **www.biohaven.com**.

About BHV-7000
BHV-7000 is a novel and selective activator of Kv7.2/Kv7.3, a key ion channel involved in neuronal signaling and in regulating the hyperexcitable state, that is being developed for the treatment of epilepsy and mood disorders. BHV-7000 was rationally developed as a potent activator of heteromeric Kv7.2/7.3 potassium channels, the molecular substrate that underlies the M-current (IKM). BHV-7000 is highly differentiated from ezogabine (known as retigabine in Europe), a Kv7 activator that was previously approved for adjunctive treatment of partial-onset seizures in adults. In comparison with ezogabine, BHV-7000 belongs to a significantly different structural class and differentiates from ezogabine in key properties, including pharmacology, plasma stability and stability to photooxidation. In addition, BHV-7000 does not exhibit $GABA_A$ receptor positive allosteric molecular activity as seen with ezogabine and similar compounds, which may contribute to the poor tolerability of ezogabine. This lack of $GABA_A$ receptor activity may translate to improved tolerability by reducing the typical dose dependent side effect profile often seen in patients receiving ezogabine and other anti-seizure medications.

About Biohaven
Biohaven is a biopharmaceutical company focused on the discovery, development, and commercialization of life-changing treatments in key therapeutic areas, including immunology, neuroscience, and oncology. The company is advancing its innovative portfolio of therapeutics, leveraging its proven drug development experience and multiple proprietary drug development platforms. Biohaven's extensive clinical and nonclinical programs include Kv7 ion channel modulation for epilepsy and mood disorders; extracellular protein degradation for immunological diseases; TRPM3 antagonism for migraine and neuropathic pain; TYK2/JAK1 inhibition for neuroinflammatory disorders; glutamate modulation for OCD and SCA (spinocerebellar ataxia); myostatin inhibition for neuromuscular and metabolic diseases, including SMA and obesity; antibody recruiting bispecific molecules and antibody drug conjugates for cancer. For more information, visit **www.biohaven.com**.

Forward-looking Statements
This news release includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The use of certain words, including "continue", "plan", "will", "believe", "may", "expect", "anticipate" and similar expressions, is intended to identify forward-looking statements. Investors are cautioned that any forward-looking statements, including statements regarding the future development, timing and potential marketing approval and commercialization of development candidates, are not guarantees of future performance or results and involve substantial risks and uncertainties. Actual results, developments and events may differ materially from those in the forward-looking statements as a result of various factors including: the expected timing, commencement and outcomes of Biohaven's planned and ongoing clinical trials; the timing of planned

interactions and filings with the FDA; the timing and outcome of expected regulatory filings; complying with applicable U.S. regulatory requirements; the potential commercialization of Biohaven's product candidates; and the effectiveness and safety of Biohaven's product candidates. Additional important factors to be considered in connection with forward-looking statements are described in Biohaven's filings with the Securities and Exchange Commission, including within the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations". The forward-looking statements are made as of the date of this news release, and Biohaven does not undertake any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

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